530Z94/004

Federal Register

Tuesday
March 1, 1994

Part III

Environmental Protection Agency

40 CFR Part 238
Degradable Plastic Ring Carriers; Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 238

[EPA/OSW-FR-93-DPRF-FFFFF; FRL-4842-2]

RIN 2050-AD09

Degradable Plastic Ring Rule

AGENCY: Environmental Protection Agency, EPA.

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency is issuing this final rule in response to "Degradable Plastic Ring Carriers" (Pub. L. 100-556), which in general provides that EPA shall require plastic ring carriers (for beverage cans) be made of degradable material. The statute requires that such ring carriers must be processed from a material that, in addition to allowing the ring carrier to perform its intended use, degrades quickly and does not pose a greater threat to the environment than nondegradable materials.

The Agency has chosen to require ring carrier processors to test their ring carriers using either a lab or an *in situ* test. The Agency has chosen a degradability performance standard for ring carriers, rather than specify a particular type of degradable plastic, to allow the processors of ring carriers the flexibility to use new technology.

EFFECTIVE DATE: Part 238 is effective on September 1, 1994. The incorporation by reference of American Society of Testing and Materials standards adopted in this rule is approved by the Director of the Federal Register as of September 1, 1994 in accordance with 5 U.S.C. 552(a).

ADDRESSES: The public record for this rulemaking (docket number F-92-DPRF-FFFFF) is located at the Resource Conservation and Recovery Act (RCRA) Docket Information Center, (5305), U.S. Environmental Protection Agency Headquarters, 401 M Street, SW., Washington, DC 20460. The public docket is located at EPA Headquarters and is available for viewing from 9 a.m. to 4 p.m., Monday through Friday, excluding Federal holidays. Appointments may be made by calling (202) 260-9327. Copies cost $0.15/page.

FOR FURTHER INFORMATION CONTACT: For general information, contact the RCRA/Superfund Hotline, Office of Solid Waste, U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, (800) 424-9346. In the Washington, DC metropolitan area, call (703) 412-9810. For information regarding specific aspects of this notice, contact Tracy Bone, Office of Solid Waste (5306), USEPA, 401 M Street SW., Washington, DC, 20460, telephone (202) 260-5649.

SUPPLEMENTARY INFORMATION:

Preamble Outline

I. Authority

The Environmental Protection Agency (EPA) is promulgating this rule under the authority of sections 101, 102, and 103 of Public Law 100-556 (the "Act" or "Statute"). Although this statute has been codified in Subtitle B of the Resource Conservation and Recovery Act (42 U.S.C.A. 6914b and 6914b-1), it does not amend RCRA. In section 101 of this law, Congress found that: (1) Nondegradable plastic ring carrier devices have been found in large quantities in the marine environment; (2) fish and other wildlife have become entangled in such ring carriers; (3) such ring carriers can remain intact in the marine environment for decades, posing a threat to fish and other marine wildlife; and (4) sixteen states (as of 1988) had enacted laws requiring that ring carriers be made of degradable material in order to reduce litter and protect fish and wildlife. (As of 1991, eleven additional states have passed laws of this kind.)

As a result of these findings, Congress required EPA under section 103 of the Act to promulgate a rule that would require that plastic ring carriers (as defined in section 102(1)) be made of "naturally degradable material which, when discarded, decomposes within a period established by such regulation." 42 U.S.C. 6914b-1. The period to be established under the rule for such decomposition or degradation is to be "the shortest period of time consistent with the intended use of the item and the physical integrity required for such use." *Id.* Section 102(2) of the Act defines "naturally degradable material" to mean a "material which, when discarded, will be reduced to environmentally benign subunits under the action of normal environmental forces, such as, among others, biological decomposition, photodegradation, or hydrolysis." 42 U.S.C. 6914b(2). EPA, however, may not require the use of a degradable ring carrier if it is not "feasible" or if the degradable ring carriers present greater threats to the environment than nondegradable ring carriers. 42 U.S.C. 6914b-1.

II. Background

Concern about the disposal of plastic materials dates back to the early 1970s. Degradable plastics were seen by some as a solution for the problems of littering, landfill capacity, and wildlife entanglement and were developed for agricultural uses (mulch film, seedling pots) as well as medical applications (sutures, implants).

Renewed public concern over solid waste management and resource conservation in the past few years has been met by a resurgence of corporate and academic research into degradable plastics, and by the commercialization of various products designed to degrade. Specifically, there has been great interest in finding new degradable plastics made from non-petroleum-derived materials.

A. Mechanisms of Degradation

Plastics are polymers (chemicals made of repeating subunits) most often derived from petroleum. There are plastics derived from other natural materials that have many of the same properties as petroleum-derived plastics and have been used to make degradable products. Starch, for example, is a naturally-derived plastic that may include over 10,000 linked subunits. Lactic acid is used to make surgical sutures that degrade within the body after the incision has healed.

Plastics degrade by a number of different physical and chemical processes. In photodegradation, light causes physical changes that cause the plastic to become brittle and crumble into small pieces. Fragments may range in size from several centimeters in diameter to invisible macromolecular particles. All ring carriers in use currently, are made from low density polyethylene (LDPE) plastic and degrade in this manner.

Plastics also may be designed to be completely broken down and assimilated into the environment. These plastics differ from those that undergo photodegradation in that chemical

changes occur in the structure of polymer molecules, and the ultimate products are different from the original plastic. This chemical breakdown and alteration may be caused by one of a number of processes, including chemical reactions with natural compounds (*e.g.*, dissolution by naturally-occurring acids) and biological activity (*e.g.*, biodegradation). Degradable plastics also may be designed to combine degradation processes; they may break down to smaller fragments due to photodegradation and then rely on biodegradation to complete the process.

The Agency developed this rule based on data available for the photodegradable petroleum-based plastic ethylene carbon monoxide (E/CO), currently used for ring carriers. EPA discussed, in the proposal (April 7, 1993, 58 FR 18062), new plastic technology that could be used to make ring carriers. EPA does not, however, have specific information or data from plastic technology (other than E/CO) that can be used to process ring carriers. Despite the lack of information on new technology, EPA does not intend to impose any barriers to potential ring carrier products.

B. Factors Affecting Degradation

Two key factors affecting degradation are the time required for degradation and the environment in which degradation takes place. Given enough time or a harsh enough environment, all materials, including plastics not designed to degrade, will degrade. A meaningful definition of degradability must include a time limit that is appropriate for the planned use of and the ultimate method of disposal for the specific degradable product.

Environmental conditions also play a critical role in controlling degradation. The rate of biodegradation is primarily determined by temperature, moisture, and the presence of oxygen. For example, biodegradation is very slow in municipal solid waste landfills since these facilities are generally engineered to exclude water and air. In desert environments, the absence of water retards biodegradation. In northern climates, temperature is typically the factor that controls biodegradation rates. The intensity and wavelengths of light are the most important factors in determining the rate of photodegradation. Light intensity and wavelength also play roles in some types of biodegradation. Public Law 100–556 directs EPA to reduce the threat of entanglement of marine fish and wildlife; therefore, EPA requires degradation be tested under marine conditions (or equivalent laboratory conditions).

C. State Laws

In 1977, the State of Vermont enacted the first law banning the use of nondegradable ring carriers. By the end of 1991, 27 states had passed legislation specifically prohibiting the sale of nondegradable ring carriers. State legislation typically is written to prohibit the sale of nondegradable ring carriers by retail stores. Most of these states indicated that the primary purposes for adopting the legislation were to promote litter reduction and to address wildlife entanglement concerns. The states that have adopted legislation banning nondegradable ring carriers, the dates the legislation took effect, the time limit required for degradation under each state law, and allowable mechanisms for degradation (as of 1992), are listed in reference 4.

D. Other Programs and Investigations Concerning Degradable Plastics

Reflecting the significant public and legislative interest in the use of degradable plastics, a number of organizations have addressed the issues related to degradable plastics in the past few years. These organizations include EPA, the U.S. General Accounting Office, the Congressional Office of Technology Assessment, the U.S. Food and Drug Administration (FDA), the U.S. Federal Trade Commission (FTC), the National Institute of Standards and Technology, the American Society for Testing and Materials (ASTM), the Department of Defense, and many state governments. Except for EPA, ASTM, and the Department of Defense, the organizations and states addressing degradable plastics issues typically are focusing more on litter and landfill capacity problems than on the risk to marine mammals or on degradation in the marine environment.

The ASTM D–20 committee (Ref. 1) has developed standards for testing degradable plastics under certain environmental conditions (including photodegradation and composting). EPA is using two ASTM tests (specifically D–5208–91 and D–3826–91) in this rule. These tests are recommended by ASTM for testing photodegradable plastic film. ASTM is working on a test to simulate and measure degradation under marine conditions which could be used to test biodegradable ring carriers under lab conditions. Because of statutory deadlines, EPA can not wait for ASTM to approve that test; therefore, we have included in this rule an *in situ* test that could be used for biodegradable ring carriers. EPA may, at a future date, review this rule to consider the effect of any new ASTM marine test.

III. Summary of the Proposed Rule

On April 7, 1993 (58 FR 18062), EPA issued a proposal in response to Public Law 100–556. The Agency proposed a degradability performance standard for ring carriers rather than specify a particular type of degradable plastic. The proposed performance standard included the same three factors in this rule's *in situ* test: A physical endpoint for degradation, a time limit for degradation, and marine environmental conditions. In the proposal, EPA referred to these factors as the performance standard.

The proposed performance standard required testing in very specific marine conditions that would be more costly than the currently employed lab tests. Therefore, the proposal also allowed a processor of photodegradable ring carriers to use lab tests to check the degradation of the ring carriers as long as the lab tests were equivalent to the performance standard.

IV. Response to Comment

EPA received comments on the proposed rule from eighteen persons or groups. This section summarizes and addresses the major comments. A discussion of the remaining comments can be found in a background document available in the RCRA Docket Information Center. See the "ADDRESSES" section at the beginning of this rule for information on getting a copy of the document.

A. Definition of Terms

In the April 7, 1993 proposed rule, EPA proposed three definitions: "5 percent elongation at break", "processor" and "ring carrier." EPA received no comments on the definitions for "processor", and "ring carrier"; therefore, they remain unchanged in the final rule. In response to one comment, EPA has changed the definition for "elongation at break". In the proposed rule, EPA defined "5 percent elongation at break" as " * * * computed by dividing the length, at break, of the material before it is tested by the length of the material, at break, after it is stretched * * * " The commenter pointed out that the proposed definition incorrectly divided the original length of the plastic by the length after it has been stretched. The definition found in the final rule language corrects this error as well as defines the term to more closely resemble the ASTM definition.

EPA received many comments on the proposed rule's usage of terms

describing degradability such as: Photodegradation, biodegradation, naturally-derived plastics, and synthetic plastics. The Agency defined and used these terms in the preamble only for the purpose of discussing the issues surrounding degradable plastics; EPA does not use any of these terms in the final rule language. Therefore, regulatory definitions for those terms are not necessary.

EPA added the word "plastic" to the title of the regulation in response to one comment. The commentor expressed concern that this rule may be construed to apply to cardboard beverage carriers. EPA added "plastic" to the title to clarify the scope of this rule as set by Congress in Public Law 100–556. The definitions and requirements of today's regulation are not necessarily relevant to degradable plastics intended for other end uses.

B. Testing Degradation

After the formulation of the resin, environmental conditions are the most important factors for determining the rate of degradation. For example, a photodegradable plastic buried in a landfill will degrade at essentially the same rate as the nondegradable formula of that plastic because there is no source of light to degrade the plastic. The Statute directs the Agency to protect marine wildlife. To achieve this goal, the Agency proposed that ring carriers be tested for degradability by being exposed, "for 35 days, during June and July, to marine conditions in a location below the latitude 26 degrees North, in continental United States waters." The Agency proposed that the amount of degradation could then be tested and measured, using ASTM D–3826–91, to show 5 percent elongation at break. In addition to the *in situ* test described above, the proposal also allowed processors of photodegradable ring carriers to use lab tests to check the degradation of the ring carriers (rather than a location below latitude 26 degrees North) as long as the lab tests were equivalent to the *in situ* test. In the preamble to the proposal EPA stated that, for the purpose of testing a photodegradable ring carrier, a lab test following the ASTM test D–5208–91 (using cycle A conditions for 250 light hours) is equivalent to the *in situ* test and could be used by ring carrier processors to meet the proposed regulation. EPA asked for comment on the use of ASTM tests D–5208–91, D–3826–91 and G–26.

Several commenters felt that the ASTM tests for exposure to UV and measurement of elongation at break (ASTM D–5208–91 and D–3826–91, respectively) should be required in the rule language rather than referred to in the preamble and urged that the *in situ* test (referred to in the proposal as the performance standard) should be deleted. The commenters felt that the *in situ* test was vague and not reproducible. The ASTM tests were felt to be easily implemented and reliable.

In response to these comments, EPA decided to include the ASTM tests in the final rule language as an option along with the *in situ* test. EPA decided to not require the ASTM tests alone because of the potential negative effects on future use of biodegradables or other new technology. A purely biodegradable ring carrier (if one is developed) could never pass these tests, which are based on UV absorption and photodegradation rather than biodegradation. As a result, the final rule provides that the processor of a ring carrier may choose either the ASTM lab tests (ASTM D–5208–91 using cycle A conditions for 250 light hours and ASTM D–3826–91) or the *in situ* test (i.e., expose the ring carrier for 35 days, during June and July, to marine conditions in a location below the latitude 26 degrees North, in continental United States waters to degrade the ring carrier material and then use D–3826–91 to test for 5 percent elongation at break).

C. Measuring Degradation

The rate and extent of degradation typically are assessed by measuring changes in the physical properties of a material. For degradable plastics, a common method used to quantify the extent of degradation is to assess the "brittleness" of the material by measuring the amount of stress that must be applied before the plastic breaks. Brittleness can be measured in many ways, including tensile strength and the elongation of the plastic prior to breaking.

In the proposed rule, the Agency chose "elongation at break" to measure degradation. There are data that show a close correlation between the loss of elasticity (i.e., becomes brittle) and the rate of degradation. Brittleness can be used to predict the loss of physical integrity of the plastic which correlates to a reduced risk to wildlife from entanglement.

Plastic that has degraded to the point of 5 percent elongation at break will stretch only 5 percent of its original length before crumbling. The LDPE resin used to make ring carriers stretches readily. Ring carriers made from LDPE normally can be stretched to more than several hundred percent of their original length before breaking. Once the plastic material has been exposed to degrading factors, the material becomes more brittle and no longer can stretch very much before the plastic breaks. At approximately one hundred percent elongation at break, ring carriers lose their ability to function and the cans fall out of the carriers (Ref. 2).

"Elongation at break" is accepted by many in the scientific community as an appropriate method for measuring brittleness, and therefore, degradation of degradable plastics. However, some commenters interested in developing new ring carrier technology (for example, a biodegradable plastic ring carrier) expressed concern that elongation at break may not be appropriate for the new technology. Two commenters suggested the use of respirometric tests (using the evolution of carbon dioxide as a measure of biodegradation) for measuring degradation of biodegradable plastics. Respirometric tests are extremely complicated to design and run; in order to measure the carbon dioxide evolution, the experiment must be run under very controlled laboratory conditions. To EPA's knowledge, a respirometric test that reflects the marine environment has not been developed. None of these commenters provided specific suggestions or data on how EPA can measure degradation of materials other than photodegradable plastics. Therefore, EPA has decided to leave the measurement of elongation at break in the final regulation, but has included the *in situ* test as an option for any new technology that may be developed.

D. Time Limit for Degradation

The Agency is required by the statute to establish a time limit for degradation that is "the shortest period of time consistent with the intended use of the item and the physical integrity required for such use." Although it would be ideal to set a time limit that is not expected to pose any risk to marine wildlife, it is likely that some risk to marine wildlife will remain because it is not technically possible to design a ring carrier that degrades immediately upon disposal in a marine environment, but also is strong enough for its intended use (holding beverages).

The Agency investigated whether or not the material currently being used to make ring carriers, E/CO, degrades under marine conditions. EPA requested, but did not receive, any information to suggest that a faster time than measured in the EPA study (Ref. 3) could be achieved by E/CO or any other plastic product (that can also function as a ring carrier). E/CO clearly degrades when exposed to sunlight. Therefore,

the Agency has chosen a time limit for degradation that is based on the best performance observed in actual testing of the E/CO ring carriers currently in use. In a study (Ref. 3) performed by Research Triangle Institute for EPA, it took 35 days for E/CO ring carriers to reach 5 percent elongation at break in the marine environment. The testing was done during the months of June and July, off the coast of Miami, Florida. The time degradable ring carriers require to degrade is a fraction of the time nondegradable ring carriers were estimated to remain intact; therefore, the risk to marine species from degradable ring carriers will be much less than the risk posed by nondegradable ring carriers.

Some commenters felt that E/CO could not meet the requirement within the proposed time period. However, EPA has data to the contrary which is included in the docket to this rule (Ref. 3). Moreover, an E/CO processor commented that they believed E/CO could meet the proposed lab tests.

Several commenters were concerned that the performance standard would inhibit the development of new technology. Commenters also felt that EPA should allow a longer timeframe for biodegradable ring carriers to degrade than for photodegradables because of their greater environmental desirability. EPA disagrees. Although EPA understands the environmental advantages of a biodegradable carrier, the Agency believes that any biodegradable ring carrier must degrade as quickly as E/CO so as to meet the statute's goal of protection of marine fish and wildlife.

Commenters noted that states may misunderstand that the 35 day time limit hinges on testing in a warm and sunny environment. They feared that states other than Florida might require the 35 day timeframe. EPA realizes that a ring carrier that degrades in 35 days in Miami will take longer to degrade in other parts of the country. It will also take longer for a ring carrier to degrade in Miami during winter than during the summer months (seasonal variation of UV is greater than geographic variation).

By establishing the *in situ* test in § 238.30(a), the Agency does not intend to require that a ring carrier degrade to 5 percent elongation at break in 35 days in coastal waters everywhere in the United States. For example, this rule is not requiring a ring carrier be processed so that it degrades within 35 days in northern coastal waters (e.g., Maine). Such a ring carrier may not be able to be marketed nationally because it may degrade too quickly in the south during the summer and, therefore, would not be able to perform its intended function. Therefore, the Agency wishes to emphasize that the *in-situ* test is 35 days in marine conditions in a location below the latitude 26 degrees North, not 35 days in any coastal water in the continental United States.

E. Preemption of State Regulations

Over half of the states have enacted legislation requiring the use of degradable ring carriers. State requirements (Ref. 4) vary widely in timeframes for degradation, definitions of plastic articles covered, testing requirements, and degradation processes. EPA received four comments requesting that this rule preempt State regulations concerning the degradability of plastic ring carriers. Commenters expressed concern that the various state standards could force the processors and distributors of ring carriers to use more than one type of ring carrier rather than the one ring carrier currently used nationally.

EPA understands this concern and, in principle, agrees that one degradable ring carrier should provide adequate protection for fish and wildlife nationwide. However, Congress did not provide authority for this rule to preempt state regulation of degradable ring carriers. Nor does EPA believe Congress intended this rule to preempt more stringent state and local regulations.

The Agency does not intend to interfere with local, state, or other federal programs pertaining to the regulation of degradable plastics.

V. Implementation and Summary of This Final Rule

In summary, today's Final Rule requires that manufacturers and importers of plastic ring carriers test their ring carriers to ensure that they degrade. The processor of a ring carrier may choose either the ASTM lab tests (ASTM D–5208–91, using cycle A conditions for 250 light hours, and D–3826–91) or the *in situ* test (expose for 35 days, during June and July, to marine conditions in a location below the latitude 26 degrees North, in continental United States waters and then, using D–3826–91, test for 5 percent elongation at break).

This rule applies to both processors in the United States and also to any person in the United States importing ring carriers. This rule does not differentiate between ring carriers processed for use in the United States and other countries because, at the time of sale to beverage bottlers, the processor has no knowledge as to where the ring carriers will be sold or used.

Each ring processor and importer must determine that its ring carrier meets this degradable performance standard using either of the tests described in today's rule, before marketing for use the ring carriers. The Agency does not intend for processors and importers of ring carriers to test each shipment of ring carriers to determine if they meet the performance standard; rather they should test the ring carrier each time the ring carrier's formulation or processing procedure changes substantially. Importers must not knowingly distribute ring carriers that do not meet this performance standard and they should seek assurance from the processors that the ring carriers meet the performance standard. If more than one processor manufactures ring carriers using the same ring carrier material and processing conditions, then they do not each have to test their own ring carrier; they may share the test data.

VI. Administrative Designation and Regulatory Analysis

A. Regulatory Impact Analysis

Under Executive Order 12866 (58 FR 51735 (October 4, 1993)), the Agency must determine whether the regulatory action is "significant" and therefore subject to the Office of Management and Budget review and the requirements of the Executive Order. The Order defines "significant regulatory action" as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order."

It has been determined that this rule is not a "significant regulatory action" under the terms of Executive Order 12866 and is therefore not subject to OMB review because the Agency believes the processors are able to meet these standards without changing current technology.

B. Executive Order 12875

Executive Order 12875, "Enhancing the Intergovernmental Partnership", is

intended to reduce imposition of unfunded federal mandates on state, local and tribal governments. This rule does not impose a mandate on these governments. The requirements of this rule apply solely to the plastic processors of ring carriers and do not compel any action by state, local or tribal governments.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C 601 *et seq.*) requires an agency to prepare, and make available for public comment, a regulatory flexibility analysis that describes the impact of a proposed or final rule on small entities (i.e., small businesses, small organizations, and small governmental jurisdictions). No regulatory flexibility analysis is required if the head of an agency certifies the rule will not have significant economic impact on a substantial number of small entities.

This rule will affect ring carrier processors, none of whom are small entities. Small entities are not likely to enter into this market because of the requirements for expensive application equipment and quantities of materials. Therefore, in accordance with 5 U.S.C. 605(b), I hereby certify that this rule, as promulgated, will not have a significant adverse economic impact on a substantial number of small entities (as defined by the Regulatory Flexibility Act).

D. Paperwork Reduction Act

The Agency has determined that there are no additional reporting, notification, or recordkeeping provisions associated with this rule. Such provisions, were they included, would be submitted for approval to OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.*

VII. References

(1) Narayan, Ramani. "Development of Standards for Degradable Plastics by ASTM Subcommittee D–20.96 on Environmentally Degradable Plastics", 1992.

(2) Samaras, Peter, L. Letter to EPA, for ITW Hi-cone. August 31, 1992.

(3) Research Triangle Institute. "Weatherability of Enhanced-Degradable Plastics." Contract No. 68–02–4544. U.S. Environmental Protection Agency. Cincinnati, OH. 1992.

(4) Eastern Research Group. Current Status of State Regulations Requiring Degradable Ring Carriers. March 1992.

List of Subjects in 40 CFR Part 238

Environmental protection, Beverage ring carrier, Biodegradation, Degradable plastic, Degradability standards, Imports, Incorporation by reference, Photodegradation, Ring carrier, Waste treatment and disposal.

Dated: February 16, 1994.

Carol M. Browner,

Administrator.

For reasons set out in the preamble, title 40, chapter I, of the Code of Federal Regulation is amended by adding part 238 consisting of §§ 238.10, 238.20 and 238.30 to read as follows:

PART 238—DEGRADABLE PLASTIC RING CARRIERS

Subpart A—General Provisions

Sec.

Subpart B—Requirements

Authority: 42 U.S.C. 6914b–1.

Subpart A—General Provisions

§ 238.10 Purpose and applicability.

The purpose of this part is to require that plastic ring carriers be made of degradable materials as described in §§ 238.20 and 238.30. The requirements of this part apply to all processors and importers of plastic ring carriers in the United States as defined in § 238.20.

§ 238.20 Definitions.

For the purpose of this part:

Percent elongation at break means the percent increase in length of the plastic material caused by a tensile load. Percent elongation at break shall be calculated by dividing the extension at the moment of rupture of the specimen by the initial gage length of the specimen and multiplying by 100.

Processor means the persons or entities that produce ring carriers ready for use as beverage carriers.

Ring carrier means any plastic ring carrier device that contains at least one hole greater than 1¾ inches in diameter which is made, used, or designed for the purpose of packaging, transporting, or carrying multipackaged cans or bottles.

Subpart B—Requirement

§ 238.30 Requirement.

(a) No processor or person shall manufacture or import, in bulk, ring carriers intended for use in the United States unless they are designed and manufactured so that the ring carriers degrade to the point of 5 percent elongation at break, when tested in accordance with ASTM D–3826–91, "Standard Practice for Determining Degradation End Point in Degradable Polyolefins Using a Tensile Test", after the ring carrier is exposed to, either:

(1) 250 light-hours of UV in accordance with ASTM D–5208–91," Standard Practice for Operating Fluorescent Ultraviolet (UV) and Condensation Apparatus for Exposure of Photodegradable Plastics", using cycle A; or

(2) 35 days, during June and July, to marine conditions in a location below the latitude 26 degrees North, in continental United States waters.

(b) The incorporation by reference of ASTM D–3826–91, "Standard Practice for Determining Degradation End Point in Degradable Polyolefins Using a Tensile Test", and ASTM D–5208–91, "Standard Practice for Operating Fluorescent Ultraviolet (UV) and Condensation Apparatus for Exposure of Photodegradable Plastics," was approved by the director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies are available from the American Society of Testing and Materials, 1916 Race Street, Philadelphia, PA 19103. Copies may be inspected at the Resource Conservation and Recovery Act (RCRA) Docket Information Center, (5305), U.S. Environmental Protection Agency Headquarters, 401 M Street, SW., Washington, DC 20460 or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC. These materials are incorporated as they exist on the date of the approval and notice of any change in these materials will be published in the **Federal Register.**

[FR Doc. 94–4369 Filed 2–28–94; 8:45 am]

BILLING CODE 6560–50–P